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# **Group Effectiveness Research Laboratory**

DEPARTMENT OF PSYCHOLOGY · UNIVERSITY OF ILLINOIS · URBANA, ILL.

## **A CROSS-CULTURAL STUDY OF ROLE PERCEPTIONS**

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Communication, Cooperation, and Negotiation in Culturally Heterogeneous Groups  
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### **ABSTRACT**

Role differential responses of about 1620 subjects from America, Greece, India, Peru, and Taiwan support the following conclusions: (a) About 5 role differential factors account for more than half of the variance of role perception, in each culture; (b) Only 3 of these factors are cross-culturally equivalent, allowing for cross-cultural comparisons of roles on only about 3 dimensions; (c) The factor scores of the roles on the equivalent factors show a broad pattern: large variations in the "giving of affect" are observed when ingroup, outgroup and conflict roles are examined; large variations in "giving vs denying status" are observed when the actor in a particular role is of high, equal or low status. (d) Superimposed on the pattern mentioned in (c) are numerous cultural differences in role perception that are meaningful in terms of known influences on social behavior in the specific cultures.

## **A Cross-Cultural Study of Role Perceptions<sup>1</sup>**

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A large proportion of the variance of human social behavior is probably determined by social roles. The literature on role theory is vast (e.g., Biddle and Thomas, 1966). However, most of the theoretical literature is concerned with problems of conceptualization with no connection with empirical work. The present paper is part of a series which followed the reverse process, i.e., empirical work resulted in theoretical formulations which led to particular theoretical deductions which were then tested with new empirical studies. Specifically, the present paper reports these latter empirical studies.

Triandis, Vassiliou and Nassiakou (1968) have presented a procedure for the cross-cultural measurement of role perceptions.

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An instrument, called the Role Differential, which is an adaptation of the semantic differential (Osgood, Suci and Tannenbaum, 1957) and the behavioral differential (Triandis, 1964), provides an opportunity for subjects from different cultures to indicate what behaviors are appropriate between persons holding particular roles in their cultures. In the first study 100 roles, such as father-son, male-female, prostitute-client, etc. were judged against a set of 60 scales defined by interpersonal behaviors, by American and Greek subjects. A typical item appears below:

Male-Female

would                            would not  
 let go first through a door

The subjects are instructed to consider the first member of a role pair as the actor, and the second as the person acted upon. The behaviors are obtained from pretest samples of subjects from each culture, who indicate what behaviors are likely to occur between persons holding the various roles. In each culture the most frequently elicited behaviors constitute that culture's Role Differential.

The data obtained with any differential form a cube with three sides: concepts (in this case roles), scales (behaviors) and subjects. A variety of factor analyses may be employed to reduce the complexity of the data. In the Triandis et al (1968) study the responses of the subjects in each culture were summed, the correlations of the scales were factor analyzed and four culture-common factors were identified. ~~Two~~ were bipolar and the other two unipolar. They were as follows:

1. Association-Dissociation (defined by behaviors such as help, reward, advise, stand up for, be interested in, be eager to see, respect, etc. versus grow impatient with, be indignant at, argue with, infuriate, fear, be prejudiced against, and exclude from the neighborhood).

2. Superordination-Subordination (defined by command, advise, treat as a subordinate, inspect work of, feel superior to, etc. versus apologize to, ask for help of, be dependent on, accept commands of, etc.)

3. Intimacy (defined by kiss, cuddle, love, marry, pet, cry for).

4. Hostility (defined by throw rocks at, fight with, quarrel with, exploit, cheat, etc.)

In addition to the culture-common factors, each culture yielded culture specific factors. The American data yielded 6 additional culture specific factors (Contempt, Tutoring, Kinship Acceptance, High Intensity Behaviors, Envy, and Work Acceptance). The Greek data yielded three more factors labeled Ingroup Concern for Consensus (adore the same God with, be saddened by attitude of, desire good attitude of), Suspicion (be cautious, be discriminating) and Overt Aggression (hit).

In order to compare role perceptions cross-culturally it is essential to obtain some equivalent dimensions in each culture. Then it is possible to express any role by a set of coordinates on these common dimensions, for example, it is possible to state that a particular role involves moderate Association, high Superordination, a slight amount of Intimacy and No Hostility. By noting the

location of the role in the common space, as perceived by two or more cultural groups, it is possible to make cross-cultural comparisons.

Unfortunately, the culture common factors obtained in any study of this sort depend in part on the sample of roles employed by the investigator. For example, an investigator who sampled only family roles could not have obtained the intimacy dimension, because his roles would not differ on this dimension.

Triandis et al (1968) presented role comparisons between American and Greek samples, on the Association, Superordination, Intimacy and Hostility dimensions. They argued that these culture common dimensions may be truly fundamental and other dimensions emerging from factor analyses may be due to accidents of sampling. It is conceivable that further studies might reveal additional fundamental dimensions, but for the time being we may assume that these four are the basic dimensions of role perception. The authors also selected 60 American and 60 Greek-generated behaviors and asked samples of American and Greek students to judge the behaviors on the four culture common dimensions, using standard Thurstone equal appearing interval procedure. The scale values of the 120 behaviors obtained from each culture on each of the four culture-common dimensions were intercorrelated and it was determined that Association is highly positively correlated with Giving Status and negatively correlated with Hostility, while Intimacy is an independent factor. They conclude that positive vs negative affect and intimacy vs formality are the most basic dimensions

of social behavior.

Finally, Triandis et al (1968) presented a theoretical scheme in which roles are to be described by their coordinates in a space defined by association, status and intimacy. They argued that since both behaviors and roles can be placed in the affect-status-intimacy space, it is possible to determine what behaviors are appropriate for each role by considering the coordinates of any role and all behaviors in this space.

The authors also defined general intentions (e.g., to be helpful) and behavioral intentions (e.g., to clean the dishes) and argued that the latter are expressed in behavior. They stated that behavioral intentions and behavior are largely situationally determined. For example, behavior depends on the person's knowledge (does he know how to wash dishes), previous habits (does he usually wash dishes), intrinsic satisfaction with the behavior (does he enjoy washing dishes) as well as on the behavioral norms defined by the person's roles (male-female, husband-wife, guest-host, etc.). On the other hand general intentions are less situationally determined and may therefore be an appropriate focus for theory. The responses made by subjects to a particular behavioral differential scale are behavioral intentions, the sums of these responses reflected in a role's factor scores are general intentions. They finally defined a correspondence between the general intentions and the behavioral intentions, obtained with the Behavioral Differential, and the general behavioral norms and the behavioral norms.



obtained with the Role Differential, and showed that empirically such correspondence is justified.

Triandis et al also argue that the most basic dimensions which are common to both general intentions and general behavior norms may be three: (a) giving versus denying affect, (b) giving versus denying status, and (c) intimacy versus formality. They propose to use these three dimensions in future theory building. They suggest that a number of variables determine the extent to which a person will give affect, status or desire intimacy. These may include the length of acquaintance, the history of interpersonal reinforcements, the power of one to reinforce the other, etc.

Finally, looking at the high correlations between the coordinates of the behaviors used in one of their studies on the Affect, Status, and Hostility (negatively) scales on the one hand and the independence of the Intimacy scale from these three scales on the other hand, they suggest that perhaps both roles and behaviors might be expressed in this most fundamental Affect-Intimacy space.

Oncken (1968) tested this speculation and found that it is over-simplified. He had samples of behaviors and samples of roles judged, by means of Thurstone equal interval procedure scaling, on the four culture common factors isolated by Triandis et al (1968). In this way he obtained scale values for each behavior and each role on four dimensions. He correlated the Thurstone scale values of the behaviors on the four factors and replicated the Triandis et al results, i.e., found that affect

and intimacy are indeed the basic independent dimensions of perception of social behavior. However, the corresponding correlations of the scale values of the roles yielded a two-dimensional space consisting not of affect and intimacy but of affect and status. Oncken then developed a mathematical model which permits the "translation" of data obtained from the "role space" to the "behavior space". The model assumes that coordinates of a role in the "role space" can be mathematically transformed to coordinates in the "behavior space". It assumes that affect in the role space is the same dimension, and has the same units of measurement, as affect in the behavior space; similarly, the status in the role space can be transferred to the status dimension in the behavior space. With this model he was able to test the speculations of Triandis that the appropriateness of a behavior in a given role is an inverse function of the distance between the coordinates of the behavior and the role in the behavior space. For example, roles judged as intimate and subordinate would require behaviors judged as intimate and involving the giving of affect. Oncken's test of this theoretical speculation resulted in strong support of the Triandis argument. Specifically, Oncken used the Thurstone scale values of the roles and the behaviors which he obtained from his subjects to predict the Role Differential judgments of the subjects tested two years earlier by Triandis. He found that for 29 out of 50 roles he was able to predict the judgments of

Triandis' subjects at a statistically significant level.<sup>2</sup>

It is now possible to restate our cross-cultural understanding of role perception in terms of the following assumptions and hypotheses:

Axiom I: Any role pair can be defined by a set of coordinates on behavior factors.

Axiom II: Any interpersonal behavior can be defined by a set of coordinates on behavior factors.

Theorem I: The distance between a role pair, defined as a point in the behavior factor space, and any behavior, defined also as a point in the behavior factor space, is inversely proportional to the judged appropriateness of the behavior taking place between persons occupying that role.

Support for Theorem I was obtained by Oncken (1968).

#### Correspondence of General Behavior Norms and Factors Obtained in Other Studies.

The argument that emerges from a review of the above studies may be restated: There are three fundamental general behavioral norm dimensions: Giving vs. denying affect, giving vs. denying status, and intimacy vs. formality. Any role can be expressed by a set of coordinates in this three-dimensional space; any behavior can be expressed by a set of coordinates in the same space. A behavior is appropriate, within a given role, if it has similar coordinates in the

2. The usefulness of such a model can be made apparent if we consider the following: The adequate description of social behavior in a culture may require the investigation of 250 roles and 100 social behaviors. Such an investigation, with the Role Differential, would require 25,000 judgments. On the other hand, if there are only 2 fundamental dimensions of perception of roles and 2 dimension of perception of behaviors, we need only 500 plus 200 or 700 judgments in order to describe all roles in that culture. Assuming that 1000 subjects are required to obtain a complete picture of role perception in a complex culture such as the United States, and since most people can make 700 judgments in less than one and a half hours, the total subject time with this approach is 1,500 hours. On the other hand, the role differential would require 53,500 hours of subject time. Thus, if the model can be made to work adequately a tremendous saving in subject time would be possible.

common role-behavior space with this role.

There remains the empirical fact that in different studies we do not obtain these three dimensions, but some other dimensions that appear similar to them. However, it is here argued that specific factor analytic results depend on sampling -- not only of roles, but also of scales (behaviors) and subjects. Variations are to be expected and these are not necessarily accidental, but simply involve distortions due to interaction between the general behavioral norms and situational factors. For example, the early work with the Behavioral Differential (Triandis, 1964) had extracted five factors: Formal Social Acceptance (to admire, to vote for), Marital Acceptance (to marry, to date), Friendship (to gossip with, to play with), Social Distance (to exclude from the neighborhood, to reject as kin by marriage) and Superordination-Subordination. It can be argued that Formal Social Acceptance is a phenotype of the basic genotypes of positive affect and formality, with giving of status; Marital Acceptance the phenotype of the basic genotypes of positive affect, intimacy and giving of status; Friendship involves positive affect, intermediate intimacy and some giving of status. Social Distance is a phenotype that depends on the genotypes of negative affect, intimacy, and denying status. Finally, Superordination-Subordination is probably a clear manifestation of the denying-giving status genotype. In other words, although Triandis (1964) obtained 5 phenotypic dimensions they can be reduced to only 3 genotypic dimensions.

In cross-cultural replications (America-Japan-India) of

the Behavioral Differential (Triandis, Tanaka and Shanmugam, 1966) we obtained factors that closely corresponded to the Formal Social Acceptance, Friendship and Marital Acceptance factors. The separation of the Formal Social Acceptance or Respect factor from the Friendship factor was obtained from a representative sample of the population of urban Greece (Triandis, Vassiliou and Thomanek, 1966). The Role Differential replications also appear to extract factors that are phenotypic but clearly related to the more fundamental genotypic factors. Thus, Loh and Triandis (1968), in two separate analyses of Peruvian data, obtained factors which they labeled Rejection (insult, ignore), Respect (admire, trust), Formal Friendship (treat as equal, accept as intimate friend), Subordination (not treat as subordinate, envy) and Marital Acceptance (marry, accept marriage to own sister). These factors obviously correspond to the earlier Triandis (1964) factors.

Yang (1968) obtained from Taiwan students a set of factors which he labeled Nurturance (help, love, respect, protect), Hostility (be angry with, hate, and laugh at), Superordination (punish, command) and a separate Subordination (fear, obey, apologize to) factor. These factors again resemble the earlier American factors, although Yang also obtained two additional factors (Acquiescence and Dependency) which did not appear in the American data. Yang also showed that highly authoritarian subjects, as measured by a specially standardized balanced F-Scale, tended to see more Nurturance, Acquiescence,

Subordination and Dependency as appropriate in subordinate-to-superordinate and in equal-status roles than did subjects low in authoritarianism. Furthermore, the highly authoritarian subjects considered Superordination as more appropriate in superordinate-subordinate roles than did the non-authoritarian. Personality consistencies in the judgment of role constructs have also been obtained by Messick and Kogan (1966).

Using a somewhat different format of the role differential Osgood (1968) tested students in Japan, Hawaii and Illinois. All possible combinations of 20 interpersonal verbs and 40 roles (drawn from the Triandis et al (1968) pool of roles) were rated using the following format:

FATHER to defy SON

never seldom sometimes depends often usually always

The correlations among the subjects' responses to the verbs were subjected to factor analysis, and four factors were extracted. Osgood calls two of these factors Association-Dissociation, with suggestions of formality, in the first case, and intimacy in the second case. Actually, these factors are phenotypes which appear very similar to those found in previous work. The first factor grouped "cooperate with" with "show respect for" on the one hand and "defy", "criticize" and "hinder" on the other hand. It is quite close in meaning to the Respect (Triandis, Vassiliou and Thomsnek, 1966). The second factor contrasted "display affection to", "console" and "protect", with "keep distance", which suggests a similarity

to the Intimacy-Formality factor of Triandis, Vassiliou and Nassiakou (1968). The third factor was clearly Superordination-Subordination. The last, which was not clearly present in all three samples, suggested Hostility ("corrupt", "deceive", "hinder", "compete with".)

Thus, using a different technique, though a similar pool of roles, Osgood found factors which appear to be generated from various combinations of affect, intimacy and status.

Triandis et al (1968) reviewed the close relationship of the commonly obtained, culture-common dimensions of social behavior and the work of other investigators (e.g., Foa, Longabaugh). They conclude that Association-Dissociation, Superordination-Subordination, and Intimacy are the most fundamental dimensions of human social behavior, and are obtained with different methods of investigation.

If we view these three dimensions as genotypes and the obtained factor analytic results as phenotypes we may be able to simplify an otherwise most complex problem. In the present paper we will examine the extent to which this is possible.

### The Hypotheses

If the theory sketched out in the previous section has some validity there should be similar factors employed to describe roles in many different cultures. These factors should be phenotypes of the hypothesized culture common genotypes -- affect, status, intimacy. A few phenotypic factors should be sufficient to describe the majority of the variance of role perceptions; some of these phenotypic factors should be quite similar from culture-to-culture. On the other hand, the way the members of various

cultures respond to the roles does not necessarily have to be identical. The members of each culture, when tested with Role Differentials, may provide different coordinates for each role on the culture common factors. Finally, we expect shifts in the size of these coordinates to be systematically related to the nature of the role relationship. Roles may differ in the degree of cooperation required between the members of the role, in that some roles involve common goals and require cooperation, while others involve incompatible goals and result in conflict. We will call the former type ingroup roles, the latter type conflict roles. There are also other roles which involve a mixture of cooperation and conflict. Probably most roles are of a mixed kind. We will call these groups outgroup roles, using the definition of ingroup-outgroup provided by the Greeks (Triandis and Vassiliou, 1967) since it involves the most precise discrimination between the various types of roles.

These expectations may be stated slightly more formally:

The first expectation: A limited set of phenotypic behavior factors will suffice to account for the majority of the variance of role perceptions in each culture. More specifically, it is expected that more than 50% of the variance of role perceptions will be determined by a limited set of 5 or 6 factors, as we examine different roles in each culture.

Hypothesis I: Across cultures there will be some invariance in the nature of the phenotypic factors employed in role perception.

Specifically, it is expected, from previous work, that 3 or 4 of the 5 or 6 factors necessary to account for 50% of the variance



of role perceptions will be equivalent (or similar) as we examine the factor structures across cultures.

Hypothesis II: The coordinates of a role on the behavior factors will be different from culture to culture.

More specifically, it is expected that, on the 3 or 4 culture common factors, the coordinates of a particular role in one culture will not necessarily be the same as the coordinates of this role in another culture. Nevertheless, the data will conform to Theorem I, because when the coordinates of a role change there will be a corresponding change of the coordinates of the behaviors that are appropriate in that role.

Hypothesis III: The largest changes in the coordinates of roles on behavior factors will be observed when roles are examined that differ in status or affect.

Specifically, this hypothesis is a deduction from Oncken's finding that status and affect are the most important dimensions of role perception. The hypothesis leads us to expect large changes in the coordinates of roles on behavior factors when we examine roles that involve high status individuals interacting with low status individuals, and compare them with roles in which low status individuals interact with high status individuals. Similarly, in examining roles involving the exchange of positive affect (e.g., ingroup roles), or those involving the exchange of negative affect (e.g., conflict roles), we should obtain large differences in the coordinates of roles on the behavior factors. If Hypothesis III is supported, and since Theorem I has already been supported, it will be possible to predict

what behaviors will be appropriate within a particular role in a particular culture by simply knowing the nature of the status relationship and affective bond within that role. Such information is easy to obtain from informants.

#### Method

The basic instrument of this study was the Role Differential (Triandis et al, 1968) described above. A sample of 24 culture-common roles was selected from the Triandis et al, study. The sample (see Table 5 for the actual roles) consisted of roles that were quite heterogeneous, as determined in the previous study, and represented the basic types of roles found in that study. Specifically, there was at least one role in each of the cells of a 3 x 3 design consisting of (a) high-low status, (b) equal status, and (c) low-high status roles and (a) ingroup, (b) outgroup, and (c) conflict roles. For example, the high-low status ingroup cell was represented by the roles father-son, father-daughter, and mother-son. The high-low status outgroup cell (as defined in Triandis et al, 1968, for the Greek sample) included foreman-worker and boss-secretary. A high-low conflict role was client-prostitute. Equal status roles included brother-brother, low-high status roles son-father, etc. In addition to these roles, which are easy to classify in the 3 x 3 design, there were some roles that were labeled "general roles." Specifically, these roles were the roles woman-man, man-woman and young man-old man.

The sample of behaviors employed to define the behavior scales

of the Role Differential was also selected to be maximally heterogeneous and to represent all important factors found by Triandis et al (1968). Twenty scales were used in each culture. (Table 4 includes examples of the particular behaviors).

The original study was designed to include three cultures: Illinois Americans, Greeks, and Northern Indians from the area of Uttar Pradesh. However, since the data of Loh and Triandis (1968) and Yang (1968) were amenable to similar analyses, and since the generality of findings from five cultures provides more confirmation of a theory than findings from only three cultures, it was decided to include in the present report the equivalent analyses of the Peruvian data of Loh and Triandis and Taiwan Chinese data of Yang. Thus, the present report will present data from five cultures. The Peruvian and Taiwan data were collected for a different purpose and have already been reported in another form. The present report provides a re-analysis of these data.

Since the Peruvian and Taiwan data were collected for different purposes, the samples of roles and behaviors of these studies overlap very little with the samples of roles used in the main three cultures. Nevertheless, the data conform sufficiently to our requirements to be useful.

A total of about 1800 subjects responded to the role differential. More specifically, the samples of subjects can be described as follows: Americans: Three-hundred and fifty introductory male psychology students at the University of Illinois. Greeks:  
(a) The first Greek sample consisted of 322 new recruits for officer

candidate school. They came from all parts of the country, all had at least a high school education and the majority had several years of college.

(b) A representative sample of the population of the city of Thessaloniki, in Northern Greece, constituted the second sample. This sample also included females. This city has a population of approximately 350,000. The sample was interviewed from door to door using a procedure described earlier by Triandis, Vassiliou and Thomanek (1966) for work with the behavioral differential. A total of 400 persons were interviewed, but usable data were obtained from only 287.

Indians: A sample of 300 undergraduate (male and female) students from Lucknow University. The students were equally representative of the urban and rural student populations of Uttar Pradesh. Of the 300 student tested, 253 usable questionnaires were obtained.

Peruvians: A sample of 161 males who were high school students in Lima, Peru.

Taiwan, Chinese: This sample consisted of 227 students from the National University of Taiwan and Taiwan Normal University, in Taipei, enrolled in introductory courses.

### Analyses

The data consist of  $n$  roles, judged on  $m$  scales, by  $N$  subjects. In the past we summed the responses of the  $N$  subjects, and obtained an  $n$  by  $m$  matrix of scores, consisting of the sums of the judgments of the  $N$  subjects. The  $m \times m$  matrix of intercorrelations (based

on n observations per variable) of the behavior descriptive scales was subjected to factor analysis. For example, in the main study of Triandis et al (1968), 100 roles and 60 behaviors were utilized in the analysis, resulting in matrices of inter-correlations of size 60 X 60 in each culture. These matrices were based on 100 observations per variable (behavior scale.)

In the present study we adopted a different strategy, namely we performed separate analyses for each role. Thus, the m X m matrices of intercorrelations among the behaviors were based on N observations (the number of subjects.) Since in the present study we employed a small number of behaviors (20) and a large number of subjects (depending on the sample anywhere from 161 to 350) our results are much more stable (Humphreys, et al, 1968) - since the ratio of observations to variables is larger than 5 (which both Tucker and Humphreys suggest as a rule of thumb for stable factor analytic results.) The disadvantage of the present approach is that it requires a very large number of factor analyses. In our case we performed 178 factor analyses.

The data were obtained from about 1800 subjects, from five cultures. Not all interviews were successful, and not all questionnaires were completed. Satisfactory data were obtained from only 1620 subjects.

To understand why we performed 178 factor analyses it is necessary to describe the exact nature of these samples. Thus, in Illinois, 350 males judged 24 roles on 20 behavior descriptive scales. In Greece, we had three samples: (a) 322 subjects judged

24 roles on 20 scales; (b) 143 judged 24 roles on 20 scales in one order of presentation of the scales, and (c) 145 subjects judged 24 roles on 20 scales, but with a different order of presentation of the scales. In India there were 253 satisfactory subjects, who judged 24 roles on 20 scales. In Peru, 77 subjects judged 25 roles on 17 scales and 84 subjects judged 25 roles on a different set of 18 scales. In Taiwan, China 227 subjects judged 15 roles on 20 scales, but only 8 of the 15 roles overlap sufficiently with the American-Greek-Indian study to be included in the present analysis.

Now it should be clear that there are 24 American factor analyses, 72 Greek, 24 Indian, 50 Peruvian and only 8 Taiwan-Chinese. Thus sums to 178 analyses. Each analysis was done on a 20 by 20 matrix of correlations (except in Peru, where the matrices had 17 or 18 variables) and 161 up to 350 observations per variable were utilized in the computation of the inter-correlations. A principal axis factor analysis, with unities in the communalities, and iteration resulting in new communality estimates, which were used in the final factor analytic solution, was performed for each role. Inspection of the drop in the size of the eigenvalues was used to determine the number of factors to be extracted and rotated. The typical solution involved from 4 to 6 factors. The most frequent solution involved 5 factors. Thus, a role can be expressed as a set of factor scores on these five factors. Since the mean scores of the subjects' judgments on each scale were available, the factor scores were obtained by

averaging the mean judgments of the subjects on those scales having high loadings on a particular factor. These averages were rounded off to the nearest half-point, since considerations of reliability suggested that the accuracy of these scores is no greater than half a scale unit. These procedures provided a "profile" for each role (see Table 5). For example, for father-son role and the American data, we see that low hostility, low intimacy, high respect, and high superordination are seen as appropriate behaviors for this role by American male students.

#### The Within Culture Homogeneity of the Data

In most discussions of role perception in different cultures (e.g., Triandis et al, 1968) it is assumed that the role perceptions within culture are relatively homogeneous, so that the between-cultures variance will be much larger than the within-culture variance. This assumption needs to be tested. If we define a culture-group as one sharing the same language, race, religion and nationality and if we can show that there is the kind of homogeneity required to permit us to make statements about "role perception within this culture," we will know the limits of generalization of the above hypotheses. Accordingly, since Greece is a case where a group of people share a language, race, religion and nationality it was decided to attempt a systematic sampling of Greeks and an examination of the variability of role perception in that culture.

The variability of role perceptions can be examined in various ways. One method is to examine whether or not there are

systematic relationships between demographic variables and role perceptions. The three Greek samples, the first being representative of high school graduates from the whole country and the other two representative of one of the two largest cities were analyzed. Our first approach was to use the Tucker-Messick (1963) two-mode factor analysis method. This method results in "subject-factors" which indicate inter-subject consistencies in response patterns. The factor scores of the subjects on these subject-factors were then correlated with the demographic variables we had collected in our interviews. The demographic variables included age, sex, region of the country (birth), urban-rural information, number of years subject has lived in urban environment, region of the country where subject went to school, population of the town in which he grew up, social class indices based on father's education, mother's education, father's occupation, and family income.

The results obtained with the sample of high school graduates from all parts of the country showed no significant trends with any of the demographic variables. In other words, this is an extremely homogeneous sample. Whatever significant results were obtained can easily be attributed to chance, since a very large number of significant tests were performed. Some trends could be determined between the subject-types, obtained from the factor analysis, and the demographic characteristics. They will be summarized below:

Subject Type I: These subjects tended to give extreme judgments to obviously taboo behaviors, such as sex-love between



family members, showing no contempt in the guest to host role, and emphasized nurturance within the ingroup. We might call such subjects stereotypic. There were more such subjects from the Ionian Islands and Thrace, and from the large cities. Their parents tended to have less education. Most probably, the low education parents in the other parts of the country and the non-urban environments did not send their children to high school (high schools are more accessible in the Ionian Islands and the large cities than in other parts of the country), hence these data are probably not meaningful in terms of the regions of the country, but rather reflect the difference in parental education. It is well known (Triandis and Triandis, 1962) that low education is cross-culturally associated with stereotypic responses.

Subject Type II: These subjects are characterized by low Hostility in outgroup roles, and extremely low hostility in low-high and equal status roles. They tended to have parents who are high in education.

Subject Type III: These subjects are characterized by more Hostility, more Superordination and less Nurturance in high-low status roles, and by extreme inhibition of Hostility in ingroup roles. No demographic variables were related to this subject type, but these subjects tended to answer a number of opinion questions concerning how to raise children by emphasizing the use of ridicule in socialization, and by not punishing an angry child when it is making a scene.

Subject Type IV: These subjects emphasized Intimacy in heterosexual relations, and did not approve of Intimacy in Conflict Group Relations. Again no demographic variables were related to this type, and on the child rearing opinions questionnaire there was only an indication of low severity in socialization.

Subject Type V: These subjects emphasized that there should be no hostility in equal-status roles, but there should be high nurturance in such roles. Again there were no relationships with the demographic characteristics, but the child-rearing opinion questionnaire indicated a tendency to be consistent in rewarding children and a willingness to play (spend time) with children.

Subject Type VI: These subjects were extreme in showing superordination in high-low status roles and avoided intimacy in such roles. Again, there were no demographic relationships, but the preferred child-rearing procedures suggested authoritarianism (end justify means, O.K. to threaten children, it is good for child to have the same opinions as his parents).

In conclusion, only education had some dependable relationship with differences in role perception. The relationships between role perception and child-rearing opinions cannot be considered as established, since a large number of tests were performed and a few of the correlations would be significant by chance. We conclude that this is an exceptionally homogeneous population.

The responses of the samples representing the cities of

Greece were first analyzed by selecting a few representative roles and doing separate factor analyses of the scales. Following the factor analyses, the responses of each subject to a particular role, on the scales having high loadings on each factor were summed, and these composite scores were placed in analyses of variance in which the sex, age, and social status of the subjects were the independent treatments. The results of these analyses again show no relationship between the demographic variables and role perceptions; most of the obtained significant results were at the 5 per cent level and could have been obtained by chance. A few results, however, reached significance at the .001 level and should be considered as reliable.

The sex variable had a small number of highly significant ( $p < .001$ ) effects, mainly in responses on the Hostility factor involving outgroup or conflict roles. In such roles females tended to see less Hostility as appropriate than did males. The age variable had an effect on the Hostility factor, for conflict roles, with older subjects seeing more Hostility as appropriate than did younger subjects. Social status had an effect only in increasing the cognitive complexity of the judgments, since we obtained a highly significant tendency for high social status subjects to see more Friendship behavior as appropriate in conflict roles.

A few of the interactions between the independent variables also reached highly significant levels. Thus, high social status males differed from other males and also from females in seeing

greater admiration as appropriate in the mother-son role. In the wife-husband role a rather complex triple interaction (sex by age by social class) appeared twice, suggesting that high status, older females had a rather cynical view of this role, low status, old females had a rather idealistic view of this role, while men showed no such trends. Specifically, the high status, older females saw less friendship and less admiration in the wife role, and the low status, older females saw more friendship and more admiration in that role than was the case for all other samples. High status males saw more Hostility in conflict roles than did other samples; otherwise most of the other interactions were not significant.

An additional analysis of the representative samples utilized the discriminant function analysis technique. Since our previously mentioned analyses indicated that differences in role perceptions could be obtained only from family roles and were mostly related to social status differences (which are highly correlated with education) the discriminant function analyses were performed on only the 9 family roles which were available in our sample, and were attempts to discriminate between the subjects who belonged to five categories of social status. The analyses utilized both Greek representative samples ( (b) and (c) ) and discriminated five social status groups having the following Ns: Low status: N of 100; upper lower: N of 54; lower middle: 94; middle middle 38; upper middle 12.

Of the 9 discriminant function analyses only 3 resulted

in significant ( $p < .01$ ) Wilks lambdas. They were for the father-son, son-father and mother-son roles.

Father-Son: The first discriminant function, which accounted for 75% of the discrimination between social status groups, had a positive loading on Control (reprimand, quarrel with, and scold) and a negative loading on Dependence (ask for advice, ask for help). The relationship with social status was curvilinear, with the very low and very high status groups showing low control and high dependence, and the middle social status groups showing high control and low dependence.

The second discriminant function, which accounted for 12% of the discrimination, had a loading on the No Hostility factor. Again the relationship was curvilinear, with the middle social status groups showing less extreme lack of hostility than the other groups. The remaining discriminant functions did not give clear results.

Son-Father: The first discriminant function accounted for 43% of the discrimination, and reflected the No Hostility factor. The middle social status groups showed more extreme lack of hostility in this role than did the other groups.

The second discriminant function accounted for 35% of the discrimination power, and had high loadings on Subordination, and Informality. The high social status group was different from the remaining groups in that it indicated that less Subordination (accept orders, as for advice and help) and less Informality (have fun with, pet) were appropriate in the son to father role, than was the case for the other groups.

The third discriminant function accounted for 20%, and was loaded on Control (quarrel with, scold). The lowest status group was different from the other groups in that it indicated that it would be

less appropriate for the son to control the father than did the other groups.

The fourth discriminant function accounted for only 2% of the discrimination and was loaded on Nurturance (take care of, love). It contrasted the lower middle social status groups from the others, in that these groups report relatively less nurturance as appropriate in this role. The most nurturance was shown by the two high social status groups.

Mother-Son: The first discriminant function accounted for 79% of the discrimination and was loaded on Control and Intimacy. The major contrast occurred between the lowest social status group and the middle status groups. Specifically, the lowest status groups saw less control and less intimacy as appropriate in that role.

The second discriminant function accounted for 10% of the discrimination and was loaded on No Hostility and on Nurturance, i.e., it was related to the giving of affect. The relationship was again curvilinear, with the middle-middle status group being extremely high on the giving of affect, in this role compared to the other groups.

The third function, accounted for 9% of the discrimination and was loaded on Control and Intimacy. The lowest social status group contrasted with the middle status groups, in that middle status groups considered control and intimacy as more appropriate than did the lowest group.

The fourth function accounted for only 1 per cent of the discrimination and was loaded on Subordination. The middle status

groups considered that it was less appropriate for the mother to ask for the advice and help of the son than did the other social groups.

To summarize these analyses, it appears that the low social status groups make rather stereotypic responses, involving little control (scold, quarrel with) among family members, and emphasizing the lack of hostility, and the interdependence of these members. The high social status group is characterized by more equalitarian relationships within the family, and more nurturance from the son to the father. The middle status groups are high in control and superordination of high status family members, but also very high in the giving of affect. This group appears to be more similar to the Greek samples which we tested earlier (e.g., Triandis, Vassiliou and Nassiakou, 1968), as it should be, since we previously tested college students who came mostly from the middle group.

A final test of the within culture consistency proved more sensitive. This analysis was done separately for each role, and for the three Greek samples. It will be recalled that sample (a) consisted of 322 high school graduates; sample (b) was a representative sample of one large city, which responded to the role differential in one random order and sample (c) responded in another random order. We would therefore expect the differences between samples (b) and (c) to indicate the degree of accuracy of the measurement (since it is a kind of parallel form scale reliability.)

We expected the comparisons of samples (a) and (b) or of samples (a) and (c) to show some differences, since sample (a) is a student sample and the other samples are representative of one large city. On the other hand, we expected to obtain no differences

between samples (b) and (c) since these two samples represented the same population and the only differences between them were that they consisted of different individuals who responded to the role differential items in two different random orders.

Table 1 tends to support our expectations. We note that the two similar Greek samples ( (b) and (c) ) had on the average 3.3 common factors, while the students and the two representative samples had only 2.2 or 2.4 common factors. For comparison of these results with the cross-cultural results, we also include in Table 1 the same statistics for the three samples of American, Greek and Indian students. We note that the Greeks are similar to the Indians, but the Americans are quite different from the other two groups, having only 1.6 and 1.9 common factors. In other words, the samples that are expected to be similar have more than three common factors in each role; the samples that are different have only 2 common factors, on the average.

We also examined the average discrepancies on the factor scores of the roles on the sample-common factors. We note that these discrepancies tend to average around 0.7, for all comparisons.

Finally, by means of matched t-tests of the discrepancies of the factor scores, we examined the extent of the similarities between the various samples. These analyses indicated that there were no statistically significant differences between the two Greek representative samples (b and c), but there were differences between the students and one of the two representative samples ( $p < .01$ ). Furthermore, the overall role perceptions of Greeks



Table 1

Number of Common Factors and Average Discrepancies in the Factor Scores  
When Comparing all Possible Pairs of Three Greek Samples and the  
Student Samples from America, Greece and India.

	Avg. No. of Common Factors*	Avg. Discr. of Factor Scores*
Greek students, Greek sample(a) vs Greek sample (b)	2.2	0.6
Greek students, Greek sample(a) vs Greek sample (c)	2.4	0.9
Greek samples (b) and (c)	3.3	0.7
American and Greek students	1.6	0.8
American and Indian students	1.9	0.8
Greek and Indian students	2.2	0.7

\* Computed over 24 roles

did not differ significantly from those of either the Americans or the Indians, but the Americans and the Indians were different from each other ( $p < .05$ ).

### Results

Support for the first expectation requires that the factors extracted in each factor analysis account for at least half the variance of the role differential judgments. Table 2 shows that this is indeed the case. The data show that on the average 5 factors were extracted from each factor analysis; in the case of some roles only 4 factors were extracted, while in the case of other roles as many as 6 were extracted. The mean variance accounted for by the extracted factors ranged from 57 to 63, with the actual variance ranging from 47 to 70. In other words, about 5 factors are usually extracted and they account for more than half the variance.

Hypothesis I: Across cultures there will be some invariance in the nature of the phenotypic factors employed in role perception. Support for this hypothesis requires that the factors that emerge in the various cultures should be rather similar. Similarity here has to be determined judgmentally, since the behavior scales employed in each culture were suitable for that culture and not necessarily the same across cultures. Since our analyses were done separately for each role, a pancultural factor analysis, such as was done by Osgood in his semantic differential work was not feasible. Table 3 summarizes our judgments of the number of

Table 2

Percentages of Variance Accounted for by Factor Analytic Results

Culture	No. of Roles Analyzed	Mean Percentage of Variance	Range of Percentages	Median No. of Factors Accounting for Variance	Range of No. of Factors Extracted
Greece	24*	59	47-69	5	4-6
India	24	63	54-70	5	4-6
Peru	50	63	54-69	5	4-6
Taiwan	8	57	53-59	4	3-5
U.S.A.	24	57	54-61	5	4-6

\* Only sample (a) was computed.

Table 3

Number of Culture Common Phenotypical Factors Across the Five Cultures

	Greece	India	Peru	U. S. A.
Greece	---			
India	7	---		
Peru	6	5	---	
U. S. A.	5	4	7	---
Taiwan	6	6	5	5

factors that were similar across the various cultures.<sup>3</sup> The reader does not have to depend on our judgments, since Table 4 presents a summary of the phenotypic factors obtained in each culture. The names given to the phenotypic factors are not necessarily the best, and the reader may prefer to name them differently. In Table 4 the phenotypic factors were grouped according to our judgments of the underlying genotypic factors. Again, the reader may disagree with our judgments. The word (No) preceeds some phenotypic factors to make their meaning consistent with the genotypic, but the tables refer to the phenotypic factor without the inversion. For example, (No) Hostility is indexed with "throw rocks at" and "be enemy of" and in Table these are negative signs on Hostility for ingroup roles. Table 5 presents the factor scores of the role-pairs on the various phenotypic factors. The reader who uses both Tables 4 and 5 simultaneously can obtain much information about role perception in the various cultures. For example, consider the father-son role. The Love factor appears in connection with this role only in India.

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3. The number of culture common typical factors of Tables 1 and 3 refer to different data. In Table 1 we are examining each role separately, and the data refer to whether or not two cultures employed the same or different factors when judging each role. The scores are averaged over 24 roles. In Table 3 we examine the factors extracted regardless of role. Since on the average each of the 24 roles yielded 5 factors, we looked at 120 factors. These 120 factors tended to be quite similar to each other. In Table 4 we show what these factors actually were, how frequently they were observed, and how important they were. Table 3, then, is a summary of our judgments concerning Table 4.

Table 4  
Definition for Factors That Appear to be Culture Common (Equivalence to be Established by Reader)

Genotypic Factor	Phenotypic Factors	Scales Loading on Factors			
		Greece	India	Peru	Taiwan
Giving Affect	Love	Love Appoint Fall in love with (4-13)*	Love Appoint Have fun with (17-10)*		Help Respect Love (12-29)* Cooperate with (37-4)
	Cooperate with				Work with Respect (12-10)
(NO)	Nurturance	Advise Take care of Love Discuss with (71-16)	Advise Take care of Admire Pet (41-25)	Help in diff. Admire (24-20)	Help Love Cooperate with Forgive Protect (63-17)
	Hostility	Be enemy of Ignore Consider inferior (58-13)	Throw rocks at Be enemy of Ignore Be indignant w/ (87-20)	Make fun of Ignore Not trust (32-15)	Fear Laugh at Hate (50-9)
Formal Acceptance					Throw rocks at Be enemy of Fear Laugh at Fight with (100-11) Buy gift for Mourn for Kiss (54-11)
				Invite to movie Have relations Not ignore (58-11)	
Mixture of Affect and Status	Respect	Not advise Not scold Not appoint (16-15)	Trust word of Obey Admire Not insult (62-14)	Respect Apologize to Obey Admire Protect (50-14)	Admire ideas of Respect Depend upon Learn with help of Ask for help of (62-13)

Table 4 (Cont.)

Genotypic	Phenotypic	Greece	India	Peru	Taiwan	U.S.A.
Mixture of Affect and Status	Submission		Accept orders of Love Ask for advice Ask for help (41-16)		Apologize to Agree with Fear (12-8)	
Denying Status	Control	Scold Quarrel with Castigate Be indignant (83-13)	Scold Castigate Quarrel with (50-10)			
	(NO) Envy			Envy (14-8)		Fear Envy Be enemy of (16-8)
	(NO) Subordination	Accept orders Ask for advice Ask for help (54-14)	Accept orders Ask for advice Ask for help (62-10)	Obeys Trust word Believe Accept as commander (58-11)	Ask for help Fear Depend upon (12-17)	Depend upon Learn with help Ask for help (54-14)
	Superordination	Advise Be indignant toward (21-7)	Appoint Consider infer. Castigate (67-7)	Treat as subordinate Not treat as equal Not obey (76-11)	Command Punish (62-11)	Command Teach Inspect work (83-9)
Intimacy	Intimacy	Have fun with Pet (41-9)	Have fun with Pet (16-8)	Marry Have confidence (16-12)		Kiss Cuddle (87-9)

\* The first number refers to the percentage of all the roles studied in a particular culture that yielded this factor. The second number refers to the median percentage of variance accounted for by this factor, in those roles in which the factor appeared (it is a measure of the relative importance of the factor.)

Table 5  
Factor Scores of Roles on Phenotypic Factors in Five Cultures  
Ingroup Roles in Which Actor is of High Status

Genotypic Factors	Phenotypic Factors	Father-Son			Mother-Son			Father-Daughter			Husband-Wife						
		Gre.	Ind.	Peru	Tal.	USA	Gre.	Ind.	Peru	USA	Gre.	Ind.	Peru	USA			
Giving Affect	Love		2.0					0.5		1.0							
	Cooperate																
	Nurturance	3.0	2.0		3.0		3.5	2.0	3.2		3.0	2.0	3.0	2.5			
	(No) Hostility*	-3.0	-2.0		-2.0	-1.5	-3.0	-1.0		-0.5	-2.5	-2.5	3.0	-1.0	-2.0	0.0	-3.0
Mixture of Giving Aff. and Status	Formal Acceptance								2.5			2.5					3.5
	Respect			0.5	0.5	1.0				2.5			2.0				
	Submission																
	(No) Envy					-1.0				-1.0							-1.0
Denying Status	Control	0.5	0.5				0.5	-0.5		0.5	-0.5	0.0	-0.5				
	(No) Subordination*	-0.5	1.0		0.0		1.0	1.5		0.5	-0.5	0.0	2.0	1.0	2.0		
	Superordination			-0.5	2.0	2.5			1.4	2.0		1.5	2.0	3.0	0.5	1.5	
	Intimacy	1.0				-1.5	2.0		2.0	1.0		1.5	2.0				2.0



Table 5 (Cont)

Ingroup Roles in Which the Actor is of Equal Status									
Genotypic Factors	Phenotypic Factors	Brother-Brother			Student-Roommate			Guest-Host	
		Greece	India	Peru	Taiwan	USA	Greece	India	USA
Giving Affect	Love		1.5			2.5		1.0	
	Cooperate			2.5		+1.0			
Mixture of Giving Affect & Status	Nurturance	2.5		3.0	3.0	1.5	1.0	0.5	1.5 1.0
	(No)								
	Hostility*	-2.0	-0.5	-1.0	-2.0	-1.5	-1.5	-0.5	-2.0 -2.5 -2.5 -2.0
	Formal Acceptance			2.0	3.0		-0.5		1.0
Denying Denying Status	Respect			2.5	2.0				
	Submission		2.5			1.0			1.0
	(No) Envy								-1.0
Intimacy	Control	0.0	0.0			-1.0			
	(No) subordination*					-1.0	1.5	1.0	1.0 1.0
	Superordination		-1.0	1.0		-0.5			0.0 -1.0 0.0
	Intimacy				-3.0		-4.0	-2.0	-1.5



Table 5 (Cont)

Outgroup Roles in Which Actor is of High Status													
Genotypic Factors		Foreman-Laborer			Boss-Secretary				Client-Prostitute				
		Greece	India	Peru**	Taiwan**	USA	Greece	India	Peru***	USA	Greece	India	USA
Giving Affect	Love		0.5		+1.0		+0.5		-2.0				
	Cooperate				+1.0				+1.0				
Mixture of Formal Giving Affect & Status	Nurturance	+0.5		+2.0		+1.0		2.0					
	(No)												
	Hostility*	-1.0	-1.5	-0.5	-2.0	-1.0	-2.0		-3.5	-1.0		-1.5	
	Acceptance			+0.5				1.0					
Denying Status	Respect				+1.0				+2.0				
	Submission												
Denying Status	(No) Envy												
	Control	+1.0	0.5			+0.5	+1.0		-0.5	-1.5			
Super-ordination	(No) Sub-ordination*	-1.5	-1.0	-1.5	-1.5	-0.5	-0.5	-2.0		-2.0		-1.0	
	Super-ordination			+2.0	+3.0	+2.0	+2.0	+1.0	+3.0		+0.5	-1.0	
Intimacy	Intimacy				-3.5				-0.5				

\*\* Architect-House construction worker in Peru  
Employer-employee in Taiwan

\*\*\* Boss-Employee

Table 5 (Cont)  
Outgroup Roles in Which the Actor is of Equal Status

Genotypic Factors	Phenotypic Factors	Salesman-Client				Lawyer-Client			
		Greece	India	Peru**	USA	Greece	India	USA	
Giving Affect	Love		0.5				0.5		
	Cooperate								
	Nurturance								
(No) Hostility*		-1.0	-1.5		-2.0		-1.5	-3.0	
Mixture of Formal Giving Affect & Status	Acceptance			2.0	-2.0			0.0	
	Respect			+1.5	+0.5			0.5	
	Submission								
Denying	(No) Envy				-1.0				
	Control		-1.5			+1.0			
	(No) Subordination	-0.5	0.0	1.0		-0.5	0.0		
	Superordination		-1.0				0.5	1.5	
Intimacy	Intimacy	-2.0			-3.5		-2.0	-3.0	
** Grocer-Customer									

Table 5 (Cont)

Outgroup Roles in Which the Actor is of Lower Status									
Genotypic Phenotypic Factors	Secretary-Boss*				Prostitute-Client				
	Greece	India	Peru**	Taiwan**	USA	Greece	India	USA	
Giving Affect									
Love		+1.0					0.5		
Cooperate									
Nurturance	+1.0	+0.5		+1.5		-0.5			
(No)									
Hostility*	-1.0	-2.0		-0.0	-1.0	-0.5	-1.5	-1.5	
Mixture of Giving Affect & Status									
Formal Acceptance			2.0					-1.5	
Respect	+2.5		2.0		+1.5				
Submission							-1.0		
Denying Status									
(No) Envy								-1.0	
Control									
(No) Subordination*	+2.0	+1.0		+2.0	+2.0		-1.0		
Superordination		-0.5	-1.0	-2.0	-1.0		-1.0	-0.5	
Intimacy	-0.5				-1.0		+2.0	-2.5	

\*\* In Peru - Office employee-boss  
In Taiwan - Employee-employer

Table 5 (Cont)  
Conflict Roles in Which the Actor is of High Status

Genotypic Factors	Phenotypic Factors	Limban-Andean Indian Peru
Giving Affect	Love	
	Cooperate	
	Nurturance	
	(No) Hostility*	
Mixture of Giving Affect & Status	Formal Acceptance Respect	-1.5
	Submission	
Denying Status	(No) Envy Control	-1.0
	(No) Subordination*	
	Superordination	1.0
Intimacy	Intimacy	-2.0

Table 5 (Cont)

Conflict Roles in Which the Actor is of Equal Status					
Genotypic Factors	Phenotypic Factors	Diplomat-Diplomat			Jew-Catholic Catholic-Jew Peru
		Greece <sup>1,2</sup>	India	USA	
Giving Affect	Love		-1.0		
	Cooperate				
	Nurturance				
	(No) Hostility*	0.0	-1.0	0.5	
Mixture of Giving Affect & Status	Formal Acceptance				0.5
	Respect			1.5	1.0
	Submission		-0.5		
Denying Status	(No) Envy Control				-1.0
	(No) Subordination*		0.0	+0.5	
	Superordination		-1.0		
Intimacy	Intimacy	-3.0		-3.5	-0.5

Table 5 (cont)  
Conflict Roles in Which the Actor is of Lower Status

Genotypic Factors	Phenotypic Factors	Labor Leader-Factory Manager				Andean Indian-Liman Peru
		Greece	India	USA		
Giving Affect	Love					
	Cooperate					
Mixture of Giving Affect & Status	Nurturance	0.0	-0.5			
	(No) Hostility*	0.5	-1.0	-2.0		
	Formal Acceptance					0.5
Denying Status	Respect			+0.5		1.0
	Submission		0.5			
	(No) Envy					0.5
Intimacy	Control	0.5	-0.5			
	(No) Subordination*	0.5		0.0		
	Superordination		-1.0	0.5		
	Intimacy			-3.5		



We examine Table 4 and see that Love behavior scale is correlated with Appoint and Have Fun With, in India, to form the Love factor. The factor score is 2.0, which means that the average judgment of the Indian subjects was around 2.0 on a scale that ranged from -4 to +4. We note, in Table 4, that the Greeks have a Love factor, but it is not employed for father-son in Table 5. This means that the behavior Love correlated with some other behaviors in the Greek father-son role. Examination of Table 4 tells us that the Love scale, in Greece, is associated with Advise, Take Care of, and Discuss With, which we called Nurturance. Hence, in the father-son role, the Greeks group the behavior scales differently from the Indians, and indeed, we note in Table 5 that they see extreme Nurturance as appropriate in the Father-Son role. The Indians also see Nurturance as appropriate, only they define it a little differently, grouping together the behaviors Advise, Take Care of, Admire and Pet.

The reader can judge for himself whether there is invariance in the phenotypic factors across cultures. In our judgment there is considerable invariance (summarized in Table 3) and we find the present data consistent with hypothesis I.

Hypothesis II: The coordinates of a role in a behavior space will be different from culture to culture. Table 5, which we have already discussed, is relevant to this hypothesis. Examination of this table shows numerous differences. For example, in the U.S.A. it is inappropriate for the father to show hostility to the son (factor score: -1.5), but in Greece it is extremely inappropriate to do so (-3.0) while India and Taiwan are intermediate

(-2.0.) From considerations of reliability we expect that differences in factor scores greater than 0.7 are statistically significant at  $p < .01$ . Thus, hypothesis II receives much support.

Hypothesis III: The largest changes in the coordinates of role pairs will be observed when roles are examined that differ in status or affect. Support for this hypothesis requires that roles differing in status or affect have very different factor score profiles in Table 5. This hypothesis can be tested with data from a single culture. Careful examination of this table confirms this prediction for each culture. Specifically, on the genotypic factor which we called Giving Affect, which is manifested in such phenotypic factors as Love, Cooperation, Nurturance, Respect, No Hostility, and Formality we note the following trends: On Love, 18 of 19 ingroup roles show positive factor scores; by contrast 4 out of 5 conflict roles show negative Love. On Nurturance we note very high scores in ingroup roles, lower in outgroup roles and low in conflict roles, and also high in low-high status roles. In this case we must consider the Respect dimension as a crossing between the affect and status genotypic factors, since there is the additional trend which shows a reduction in Respect as we examine low status roles and compare them with high status roles. Specifically, as we move away from the "ingroup, low-high status roles" cell, Respect drops systematically. Similarly, we note, this happens for the Submission factor, which must therefore have much in common with the Respect factor. Hostility is low for all roles, but extremely low in ingroup roles.

Turning now to the giving-denying status genotypic factor, we note that in the case of the Control factor there is a tendency for most of the high-low roles to be positive in Control and all of the low-high roles to be negative. This indicates that changes in the status dimension of roles produce most of the changes in the coordinates of roles on the Control dimension. A similar trend can be seen for the Superordination factor, for which a maximum is found in the "outgroup, high-low" status cell and a minimum in the "low-high roles", regardless of the nature of the cultural group. Finally, on Subordination we note a maximum for the "ingroup, low-high status roles" and a minimum in the "conflict, high-low status" cell. These trends are not completely consistent across the various manifestations of the genotypic status factor but they are almost consistent.

Intimacy is high in ingroup roles, low in all other roles. Thus, it is clear that the coordinates of roles on all the culture common factors show systematic relationships to the affect and status classification of Table 5. Thus, hypothesis III is strongly supported. The empirical data are summarized in Table 6.

Table 6 is essentially a summary of Table 5 and was constructed by averaging all the phenotypic roles that correspond to each genotypic role, for each kind of role, and further averaging these scores across all roles of the same type. Thus, for example, in the high-low status roles we averaged the factor scores of the phenotypic factors which belong to Giving of Affect (Love,

Table 6

Mean Factor Score Profiles of 9 Kinds of Roles in 5 Cultures on 4 Genotypic Factors

Genotypic Factor	Status of Roles	Ingroup Roles			Outgroup Roles			Conflict Roles									
		Gre.	Ind.	Peru	Tai.	USA	Gre.	Ind.	Peru	Tai.	USA	Gre.	Ind.	Peru	Tai.	USA	
Giving Affect	High to low	3.0	1.5	2.5	2.5	1.7	0.4	1.1	1.0	1.2	1.4	---	---	---	---	---	
Giving Affect Status		---	1.0	1.3	0.5	1.7	---	0.0	---	---	1.5	---	---	---	1.5	---	---
Denying Status		0.9	0.4	1.1	1.0	0.8	0.8	0.6	1.5	1.7	1.6	---	---	---	0.0	---	---
Intimacy		1.3	---	2.0	---	0.7	---	---	---	---	-2.0	---	---	---	-2.0	---	---
Giving Affect	Equal	1.6	1.3	2.3	1.9	1.5	1.0	0.7	2.0	---	0.7	0.0	-1.0	0.5	---	0.5	
Giving Affect Status		---	1.9	1.9	---	2.0	---	---	1.5	---	0.5	---	-0.5	0.0	---	1.5	
Denying Status		-0.3	-0.5	-1.4	---	0.0	0.7	-0.4	-1.0	---	1.2	---	-0.6	---	---	-0.5	
Intimacy		---	---	---	---	-2.6	-2.0	-2.0	---	---	-3.2	-3.0	---	0.5	---	-3.5	
Giving Affect	Low to high	2.8	1.6	2.2	1.2	2.8	0.9	1.1	2.0	0.7	0.6	-0.2	+0.2	1.5	---	0.8	
Giving Affect Status		1.2	1.7	1.6	2.4	2.2	2.5	-1.0	2.0	---	1.5	---	0.0	0.0	---	1.0	
Denying Status		-1.2	-1.8	-2.9	-2.0	-1.6	-2.0	-0.1	-1.0	-2.0	-1.1	0.0	-0.2	---	---	0.0	
Intimacy		1.5	---	---	---	1.1	-0.5	2.0	---	---	-1.6	-3.0	---	0.5	---	-3.5	

\* --- means no information available.

Cooperation, Nurturance, No Hostility and Formal Acceptance) across the Father-Son, Mother-Son, Father-Daughter and Husband-Wife roles. This required that we average the American scores: 1.5, 0.5, 1.0, 2.0, and 3.5 (from Table 5). The average of these scores is 1.7.

Examination of Table 6 shows, clearly, that Hypothesis III is supported. The profiles of the 9 types of roles differ very considerably, but the cultures agree among themselves in the way they perceive each type of role.

Some obvious exceptions can be seen but these can be explained as peculiarities of the samples. For example, in the ingroup high to low status roles, the Indians are rather low in the denying of status genotypic factor. The reason is that they have some negative scores on this factor, due to the fact that fathers are not supposed to control or subordinate their daughters -- this is the job of the mothers in that culture. To take another example, while ingroup roles are characterized by great intimacy, the Americans show a negative score of -2.6 in ingroup equal status roles. This is due to the fact that intimacy (kiss and cuddle) is appropriate only in heterosexual roles in America, while in other cultures this is not the case. Since the sample of equal status roles included brother-brother, student-roommate, etc., the American results deviated from expectation. Another exception in that table involves the Indian, low-to-high status outgroup roles, on the intimacy factor. This deviant score is due to the fact that the role which represented this cell was that of prostitute-client role pair. Thus, if we ignore these

understable aberrations of the data, the scores in Table 6 are strikingly consistent across cultures.

Some striking cultural differences can be seen as "epiphenomena" of the general regularities just mentioned. For example, Greeks are quite extreme in giving affect in ingroup roles, but they show a large drop in the factor scores on this genotypic factor in outgroup roles, (from 3.0 to 0.4; from 1.6 to 1.0; from 2.8 to 0.9). On the other hand Americans do not show such a large drop in affect in such roles (1.7 to 1.4; 1.5 to 0.7) except in the low-high status roles where the Americans behave just like the Greeks (2.8 to 0.6). There is, perhaps, a kind of noblesse oblige view of American role behavior when the person holds a high status position, which disappears when he holds a low status position. In conflict roles, the Greeks seem again to "go all out", with extremely negative factor scores on affect and intimacy; the Americans are extremely low in intimacy (-3.5) but not in affect (0.5 and 0.8). The Indians are very low in affect in equal status conflict roles, but not in low to high status conflict roles. The American-Greek findings are replications of the results of Triandis, Vassiliou and Nassiakou (1968) and have already been discussed in detail in that publication.

#### Cultural Differences in Role Perceptions

A more detailed examination of cultural difference requires examination of Table 5. Two kinds of judgments can be made about cultural differences: (a) in some cultures a particular phenotypic factor does not even emerge, while in other cultures it does emerge;

(b) the coordinates of roles on the phenotypic factors are often quite different. The comments that follow are to some extent speculations about the reasons for the obtained cultural differences.

Father-Son: All cultures indicate that Hostility is inappropriate in that role. The genotypic Giving of Affect, which is appropriate in this role, is expressed by means of Affect, Nurturance and Respect in Taiwan. The Americans emphasize Respect. The genotypic status factor is expressed as Superordination in America, Control and No Subordination in Greece, Control in India and Superordination in Taiwan. Finally, the intimacy factor appears only in America and Greece, but with a reversed sign, accurately reflecting the taboo on kiss, cuddle, pet, etc. in America and the acceptance of these behaviors in the father-son role in Greece.

In Greece there is an extreme inhibition of hostility which may be due to the lack of respect in the father-son role. Greek fathers are nurturant and intimate towards their sons, but they are also highly controlling (see Triandis & Vassiliou 1967). These observations are consistent with our present findings. Greek parents control their children through nurturance and by fostering dependence as well as shame. . American parents employ superordination, train for independence and foster the development of guilt.

All traditional cultures emphasize nurturance in this role, while America does not. Is the American emphasis on Indendence inconsistent with Nurturance, hence this exception?

In the traditional cultures this role appears to be more loaded with affect than in America. Perhaps the stable power

relationships of traditional families allow greater affect.

Mother-Son: Here the Intimacy factor is very different for Americans. American mothers may kiss and cuddle, but fathers may not. The Indian profile appears to reflect the lower status of women in that culture. (When the status of women is low asking for help and advice are normal behaviors.) There is much similarity between the father-son and mother-son roles in most cultures. The importance of the mother-son role in Greek culture (Triandis and Vassiliou, 1967) is reflected in the extreme values of Intimacy and Nurturance in that role.

Father-Daughter: This role also has much in common with Father-Son, except than in America there is a change of sign on the Intimacy factor and there is lower Superordination. In India there is low Control in the Father-Daughter role, presumably because the mother controls the daughters. Notable is also the lack of a Respect factor in the case of the Indian father-daughter role, when such a factor exists in the father-son role.

Brother-Brother: There are large cultural differences, the major being the emphasis on Respect in America, Nurturance in Greece and Taiwan and Submission in India.

Wife-Husband: The American data are unique mostly because they emphasize Affect; the Greek because they emphasize Nurturance and Respect; the Indian because they emphasize Submission and no Control. The wife-husband role is ambivalent in Greece. There are external signs of Superordination of the husband, yet the wives have a way of controlling their husbands by offering Nurturance



and giving status in response to particular behaviors which they desire. The net balance may involve less superordination than in other cultures. The American husband-wife role is more clearly superordinate.

Husband-Wife: There is nothing particularly unusual about the American role perceptions. The Greeks and Indians emphasize Nurturance, the Indians Respect.

Student-Roommate: Americans are extreme in not allowing Intimacy; Greeks in low Control and Subordination; Indians in Submission and no Superordination; the Taiwan Chinese are extreme in Affect. This role is not as subordinate in Greece because students are still subordinate of their parents. Greece is broadly speaking a hierarchical culture, while America tends to be a peer culture.

Guest-Host: The Americans are extremely low on Intimacy; the Greeks on Nurturance; the Indians are high on Affect and Respect.

Host-Guest: The Americans and Greeks are as expected from the guest-host results, but the Indians are higher in Nurturance, Submission, and lower in Subordination in the host-guest than in the guest-host roles.

Son-Father: The Greeks are unique in emphasizing Nurturance; the Indians and Taiwan Chinese are emphasizing Respect and Submission.

Daughter-Father: Americans are much higher than the Indians in Affect, higher than the Greeks in Intimacy and Respect and less low than the Indians in Superordination.

Son-Mother: Americans are higher than the Indians in Affect, lower in Respect, and show much Intimacy.

Foreman-Laborer: Americans are unique in accepting very little Intimacy, giving more respect and showing more Superordination in that role, than is typical of the other cultures. Apparently formality and respect are more appropriate in industrialized cultures.

Boss-Secretary: The pattern is similar to the foreman-laborer role.

Outgroup Roles: Americans tend to be very low in Intimacy, but high in Respect compared to other cultures.

Conflict Roles: Americans tend to be very low in Intimacy and slightly high on Respect, compared to the other cultures.

General Roles: Americans tend to be high in Intimacy in heterosexual roles and low in same-sex roles. They tend to show more respect and subordination than is seen in the other cultures.

#### Discussion

The data are generally quite consistent with the expectations derived from the theoretical statements presented in the introduction of this paper. Namely, role perceptions are quite homogeneous within culture, although differences due to personality and education or social status variables can be found. On the other hand, there are large differences in role perception across cultures. The measurement procedures developed to study role perceptions appear to identify cultural differences with sensitivity and to provide data consistent with other cultural information. Role perceptions can be described by a few (typically five) phenotypic role-behavior factors, which account for more than half the variance in the judgments. Of these 5 factors, 2 or 3 are typically equivalent, cross-culturally,

allowing for cross-cultural comparisons to be made on equivalent dimensions. On the other hand, cultures differ not only on the kinds of social behavior dimensions which they employ but also on the coordinates of the roles on the culture-common behavior factors. Some of these differences are understandable in terms of the existing knowledge of customs.

The usefulness of examining role perceptions in terms of the judgments of roles on specific behavior factors seems strongly supported by these data. Specifically, it was shown that the coordinates of a role on the behavior factors vary systematically depending on whether the roles are (a) ingroup, (b) outgroup or (c) conflict roles, and (a) high-low, (b) equal, or (c) low-high status roles. It seems quite certain, then, that in analyses of role perceptions we must examine these 9 major types of roles. In addition, general vs. specific roles, and other kinds of role dimensions may exist, which have not been considered in the present analysis, but the present data suggest that a satisfactory first approximation can be provided by consideration of these 9 kinds of roles.

The behavior dimensions appear to include the genotypic factors Giving Affect (Love, Cooperation, Nurturance, No Hostility, Formal Acceptance) Giving vs. Denying Status (Control, Envy, No Subordination, Superordination,) and Intimacy. A mixture of affect and status (Dependence, Respect, Submission) was also found. The three genotypic dimensions identified by Triandis et al (1968) as the basic culture-common dimensions of role perception appear

adequate in the present study.

In sum, the 9 kinds of roles and 3 genotypic kinds of behaviors, which have been extracted in previous work appear to be culture-common and provide a basis for cross-cultural comparisons. The specific manifestations of the genotypic behavior factors may differ from role-to-role and from culture-to-culture. Nevertheless, enough cultural invariance remains to allow for meaningful cross-cultural comparisons.

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Role differential responses of about 1620 subjects from America, Greece, India, Peru, and Taiwan support the following conclusions: (a) About 5 role differential factors account for more than half of the variance of role perception, in each culture; (b) Only 3 of these factors are cross-culturally equivalent, allowing for cross-cultural comparisons of roles on only about 3 dimensions; (c) The factor scores of the roles on the equivalent factors show a broad pattern: large variations in the "giving of affect" are observed when ingroup, outgroup and conflict roles are examined; large variations in "giving vs denying status" are observed when the actor in a particular role is of high, equal or low status. (d) Superimposed on the pattern mentioned in (c) are numerous cultural differences in role perception that are meaningful in terms of known influences on social behavior in the specific cultures.

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